**IT Applications Unit 3, AOS 2, Organisations and Data Management**

**Database Design Tools, p 106**

**Naming Conventions**

1. List the naming conventions that can be applied to a database.

Tbl- Table

Cus- Custermer Table (Cstomer ID, cusAddress)

Qry- Query

Frm- Form

Rpt- report

\*Note: Ensure that the rest of the name is descriptive, theses abbreviations are used for words that will be repeated and thus if not used with descriptive words will be confusing and an inadequate heading (e.g. use **rpt**OverdueInvorces or **frm**InputCustomerDetails rather than just rpt or frm)

**Entity-Relationship Diagram, (ERD)**

1. Describe the nature of these diagrams.

An ERD is a diagram that is used to establish relationships between different data elements. It will normally show various parts of a table and how these parts relate to each other.

1. Draw the symbols used to represent, entities, relationships and attributes.

Ovals are used to represent attributes of entities

Diamonds are used to represent relationships

Boxes are used to represent entities

1. List the three steps to create an ERD.
2. Identify the entities
3. Define the Relationships
4. Add the attributes to each entity

**Data Structure Table**

1. Draw a diagram of the data structure table which is used to design a new database.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Field | Data Type | Field Size | Input Mask | Caption | Description | Validation rule | Validation text |
| cliClientID | Text | 4 |  | Client ID no. | Client’s individual assigned code | Between 1000 and 9999 | Clent ID number must be between 1000 9999 inclusive |
| cliLastName | Text | 30 |  | Last Name | Client’s Last Name |  |  |
| cliFirstName | Text | 30 |  | First Name | Client’s First Name |  |  |
| cliAddress | Text | 60 |  | Address | Client’s street address |  |  |
| cliSuburb | Text | 20 |  | Suburb | Client’s suburb |  |  |
| cliPostCode | Text | 4 | - | Postcode | Client’s postcode |  |  |
| cliPhone | Text | 20 | (99) 9999 9999 | Telephone no. | Client’s phone number |  |  |

1. Note: database tables cannot hold formulas.

**Data Structure diagram**

1. What is the purpose of this diagram?

To indicate the relationships between the specific tables of the planned database so that the developer will know how the tables should be linked.

**Query Design**

1. What is a query?

A query is a filter used to keep only those records that meet the query criteria.

1. Distinguish between a primary and a secondary sort

A Primary sort is normally the first sort that is undertaken with the secondary sort sorting that data a step further. For example, the city name will be the primary sort and the street will be the secondary sort (e.g. Melbourne is the primary sort and Collins Street is the secondary sort).

1. Read the query criteria that can be used, including symbols, plain text, \*? Wildcards, etc.

**Layout diagram**

1. What does a layout diagram involve?

Sketching what the input form or what the output form of the solution will look like.

1. List what is contained on a layout diagram.

* Location of elements: headings, labels and fields
* Formatting details for all elements: Font type, size and style an options for selected lists.
* Formulas to be added to a form or a report.

**Test Data**

1. When is a set of test data prepared?

In the design stage-used during development to ensure that the solution is functioning properly.

1. What is the role of the test data?

Test data is used in place of real data during the development stage to test whether the solution is functioning correctly. Once it has been found to be functioning correctly then the real data is used in place of it.

**Validating data**

1. List the available electronic validation checks in the software.

-Range checks, spell checking, grammar checking, predefined lists, data type checks, input masks, alignment and IIF() statements.

1. What is an input mask?

A mask that is used to reduce the chance that invalid data is entered. It can be set for a field that holds text or date data and controls how data can be entered into the field.